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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/11/2001

John Floyd

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10/27/2003

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EXAMINER

BARBEE, MANUEL L

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,722

Applicant(s)

FLOYD ET AL.

Examiner

Manuel L. Barbee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20-33 is/are rejected.
- 7) ☒ Claim(s) 18, 19, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6, 7, 10, 12, 20, 21, 24, 25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Eliashberg et al (US Patent No. 5,966,021).

With regard to two or more logical groups of modules in an environmental stress screening room, as shown in claims 1 and 20, Eliashberg teaches testing integrated circuits grouped on burn-in boards in an oven (col. 4, line 39 - col. 5, line 42). With regard to test equipments connected to the modules of the logical groups and a controller to control the test equipment and receive results, as shown in claims 1 and 20, Eliashberg et al. teach a computer that controls interface boards which route test signals to the burn-in boards, which hold the integrated circuits, and results back to the computer (col. 5, lines 6-10; col. 7, lines 20-35; col. 8, lines 9-46; Fig. 3).

With regard to a switch interposed between the logical group of modules and the test equipment, as shown in claim 2, Eliashberg et al. teach temperature switches between the interface board and the integrated circuits (col. 5, lines 34-43). With regard to the controller controlling the switches to supply the test signal to the modules, as shown in claim 2, Eliashberg et al. teach that the computer controls the temperature switches (col. 7, line 63 - col. 8, line 46). With regard to a second switch, as shown in

claim 6, and supplying the test signal from one of the modules to the test equipment, as shown in claim 25, Eliashberg et al. teach a plurality of switches for controlling communication to and from the integrated circuits (col. 5, lines 34 - 43; col. 6, line 59 - col. 7, line 19). With regard to a signal splitter, as shown in claims 7 and 24, Eliashberg teach that the interface boards direct the test signals to a plurality of integrated circuits (col. 5, line 44 - col. 6, line 9).

With regard to performing a series of tests, as shown in claims 10 and 21, Eliashberg teach performing a write and a read test on the integrated circuits (col. 8, lines 9-46). With regard to displaying test results, as shown in claims 12 and 29, Eliashberg et al. teach a conventional personal computer, which generally outputs data on a display (col. 8, lines 42-46; Figure 3, computer 402).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 13, 22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Hsia et al. (US Patent No. 5,870,407).

Eliashberg et al. teach all the limitations of claim 1 upon which claims 3 and 13 depend and claim 20 upon which claims 22 and 30 depend. Further, with regard to the controller controlling the switch to perform an active test as shown in claim 20, and a display as shown in claims 13 and 30, Eliashberg et al. teach a computer with a display

(Figure 3, computer 402). Eliashberg et al. do not teach a passive test measurement, as shown in claims 3, 13, 22 and 30. Hsia et al. teach performing tests on memory cells for continuity, shorts and leakage current (col. 4, lines 11-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in testing, as taught by Eliashberg et al., to include passive tests, as taught by Hsia et al., because then some integrated circuits would not need to be tested further in an active hot environment (Hsia et al., col. 2, lines 20-32).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Boyington (US Patent No. 6,175,812).

Eliashberg et al. teach all the limitations of claim 1 upon which claim 4 depends. Eliashberg et al. do not teach a database for storing the results of the active test, as shown in claim 4. Boyington et al. teach storing the results of burn-in tests in a database (col. 3, lines 25-47; col. 4, lines 18-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test, as taught by Eliashberg et al., to include a database, as taught by Boyington et al., because then test information could be used to optimize the burn-in process (Boyington et al., col. 2, lines 15-26).

6. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Hsia et al. as applied to claims 1, 3, 20 and 22 above, and further in view of Boyington et al.

Eliashberg et al. and Hsia et al. teach all the limitations of claims 1 and 3 upon which claim 5 depends and claims 20 and 22 upon which claim 23 depends. Eliashberg

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et al. and Hsia et al. do not teach a database, as shown in claims 5 and 23. Boyington et al. teach storing the results of burn-in tests in a database (col. 3, lines 25-47; col. 4, lines 18-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test combination, as taught by Eliashberg et al. and Hsia et al., to include a database, as taught by Boyington et al., because then test information could be used to optimize the burn-in process (Boyington et al., col. 2, lines 15-26).

7. Claims 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Akram (US Patent No. 6,119,255).

Eliashberg et al. teach all the limitations of claim 1 upon which claim 8 depends and claim 20 upon which claim 26 depends. Eliashberg et al. do not teach performing active optical tests, as shown in claims 8. Akram teaches performing optical tests (col. 3, lines 44-55; col. 2, lines 42-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test, as taught by Eliashberg et al., to include optical testing, as taught by Akram, because then optical devices would be tested.

8. Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Akram as applied to claims 1, 8, 20 and 26 above, and further in view of Schneider et al. (US Patent No. 6,137,830).

Eliashberg et al. and Akram teach all the limitations of claims 1 and 8 upon which claim 9 depends and claims 20 and 26 upon which claim 27 depends. Eliashberg et al. and Akram do not teach a bit error rate test, as shown in claims 9 and 27. Schneider et

al. teach a bit error rate test (col. 1, lines 15-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test combination, as taught by Eliashberg et al. and Akram, to include a bit error rate test, as taught by Schneider et al., because the ability of a device to receive signals would have been determined (Akram, col. 1, lines 15-52).

9. Claims 11 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Lee et al. (US Patent No. 5,907,514).

Eliashberg et al. teach all the limitations of claim 1 upon which claim 11 depends and claim 20 upon which claim 28 depends. Eliashberg et al. do not teach that the controller places the module in a desired operational state, as shown in claims 11 and 28. Lee et al. teach placing a memory cell in a state (col. 11, line 63 - col. 12, line 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test, as taught by Eliashberg et al., to include placing the device being tested in a desired state, as taught by Lee et al., because then device would have been tested in all operational states (Lee et al., col. 11, line 63 - col. 12, line 5).

10. Claims 14-17 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eliashberg et al. in view of Adams (US Patent No. 4,866,714).

Eliashberg et al. teach all the limitations of claim 1 upon which claims 14-17 depend and claim 20 upon which claims 31-33 depend. Further, with regard to a plurality of test equipment and a plurality of modules, as shown in claims 15, 16, 32 and 33, Eliashberg et al. teach a plurality of interface boards and a plurality of integrated

circuits to be tested (col. 4, line 39 - col. 5, line 42). Eliashberg et al. do not teach using a network to connect the integrated circuits and interface boards, as shown in claims 14-17 and 31-33. Adams et al. teach a personal computer burn-in system that uses network communication to connect test equipment, devices under test and a computer (Abstract, col. 5, lines 17-31, col. 8, lines 26-47; Fig. 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the burn-in test, as taught by Eliashberg et al., to include network communication, as taught by Adams et al., because then devices could have been tested remotely (col. 2, line 61 - col. 3, line 2).

Allowable Subject Matter

11. Claims 18, 19, 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed 30 September 2003 have been fully considered but they are not persuasive. Applicants state that Eliashberg do not disclose generating a test signal for a corresponding one of a plurality of logical groups of modules in an environmental stress screening room. Applicants state that the computer in Eliashberg operates as a single test equipment. Eliashberg et al. teach a computer that controls interface boards which route test signals to the burn-in boards, which hold the integrated circuits, and results back to the computer (col. 5, lines 6-10; col. 7, lines 20-35; col. 8, lines 9-46; Fig. 3). The computer in Eliashberg corresponds to the controller

in claim 1. The interface boards correspond to test equipments. The interface boards include logic that may be used to process the test signal, perform burn-in testing and process the signal received from the integrated circuits (col. 5, lines 44-57). Therefore the interface boards are test equipments connected to a computer acting as a controller.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manuel L. Barbee whose telephone number is 703-308-0979. The examiner can normally be reached on Monday-Friday from 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on 703-308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0976.

mlb
October 17, 2003


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800